

UNITED STATES PUBLIC HEALTH SERVICE

**SANITARY CONDITIONS AMONG THE
ESKIMOS**

**A REPORT ON CONDITIONS IN NATIVE VILLAGES
ALONG THE ARCTIC COAST OF ALASKA**

BY

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SANITARY CONDITIONS AMONG THE ESKIMOS.

A REPORT ON CONDITIONS IN NATIVE VILLAGES ALONG THE ARCTIC COAST OF ALASKA.

By EMIL KRULISH, Passed Assistant Surgeon, United States Public Health Service.

I accompanied the Revenue cutter *Bear* on her annual Arctic cruise to Point Barrow and made a general inspection of the natives and conditions in the Eskimo villages along the coast. Owing to the unusual and dangerous ice conditions which prevailed in the Arctic in August, stops at the various villages were necessarily brief and, therefore, time did not permit me to enter into a detailed examination of every native in the settlements. I usually had time to examine only those who applied for treatment, and consequently it may be presumed that many cases of tuberculosis and other minor diseases were undetected. The villages visited were Kotzebue, Kivalina, Point Hope, Icy Cape, Wainwright, and Barrow, Alaska, and Saint Lawrence Bay, Siberia. In this report that stretch of country bordering on the Arctic Ocean between Point Barrow and Cape Prince of Wales is considered as the Arctic coast.

Natives.

The natives along this coast are all Eskimos, the population numbering approximately 2,000. There are but few whites in these villages. The native people are a congenial, sociable, and contented class, and they are in perhaps better circumstances than other natives of Alaska, for the native food supply is usually abundant and fur-bearing animals are comparatively plentiful. Many own reindeer, which are a valuable asset, for this animal not only supplies food and clothing, but is used as a beast of burden in addition. These people, with few exceptions, are above the average native of Alaska in cleanliness of their persons and clothing. Fur outer garments and foot-wear are worn the entire year. While they do not measure up fully to the standard of the whites, these natives are far superior to the Eskimos of the Siberian coast—an indication of their recent civilization.

Settlements.

The settlements are necessarily located on the coast, as a greater portion of the livelihood of these people is derived directly from the sea. The sanitary conditions of the premises vary in the different settlements. Thus I found the villages of Kivalina and Point Hope to be the cleanest on the coast, while the filthiest premises were at

Barrow. There cans, rags, animal matter, and other refuse were scattered promiscuously. These conditions, though unsightly and apparently insanitary, are, however, not the direct cause of disease. It is in the crowded, overheated, unventilated, and therefore insanitary, homes where the principal danger of infection exists and where diseases are most frequently contracted.

In those villages in which the premises are maintained orderly and clean it was noticeable that the homes were more sanitary and the people in a better state of health. Thus the natives at Point Hope appeared to be in the best physical condition, while at Barrow the number diseased was the greatest.

Habitations.

The Arctic coast is a timberless country, and the natives depend to a large extent upon the limited supply of driftwood for their fuel and building material. Coal is plentiful in this section of Alaska, but the mines are inconveniently situated to the villages and the natives are at present unprepared to utilize this fuel in their homes. Seal-oil lamps are also used to some extent for heating purposes.

The igloos, as the Eskimo homes are called, are small in size, necessarily overcrowded, and every crevice is carefully sealed during the long winter months in order to maintain a comfortable temperature within. The different forms of dwellings on the Arctic coast are the sod igloos, frame houses, and tents. The sod igloos, which are the standard, are constructed on two different plans.

The first type of igloo with windows and doors in the walls is a frame structure of logs or lumber. The walls and roof are covered thickly with sod, and one or two windows are set into the walls. The home contains two separate compartments, which are connected by a small door, the living room proper and the entry or shed. The shed is somewhat smaller in size than the living quarters and is used as a storeroom for provisions, clothing, sleds, and other articles too numerous to mention. The living room is usually about 15 feet square, 8 feet high, and may be provided with some sort of an arrangement for ventilation. The entrance into the igloo is through a low door into the entry.

The other type of igloo is also constructed of timber and covered with sod, but the plan of construction differs somewhat from the one just described. This igloo also has two compartments, a living room and a storeroom; each one is about 12 feet square and 7 feet high, and they are connected by a low passageway. This tunnel is approximately 8 feet long, 2 feet wide, and 4 feet high. The entrance into the home is through an open hatch in the roof of the entry by means of a ladder. Then by passing through the tunnel one enters the

living room. To provide for lighting this room a skylight of about 2 feet square is set into the roof. The intestines of the big seal are used as a substitute for glass. The feature of this igloo is that there are no windows or doors in the walls. The advantage of this entrance through the roof over an ordinary door is that it is less apt to become obstructed by drifted snow, and dogs can not enter the homes as readily.

The frame houses are comparatively recent departures and but few in number. The majority of them are at Barrow. These frame dwellings were built by the natives of lumber purchased from the States at an exorbitant price. The majority of them have but one room, the ceiling is low, the windows are small, and although perhaps more pleasing to the eye, these dwellings really possess no advantage over the sod igloos in utility. They are colder and therefore require more fuel.

During the summer, which varies from two to three months, depending upon location, the natives live outdoors in ordinary canvas tents.

The fault with the majority of the homes is that they are small in size, poorly lighted, and insufficiently ventilated. Although some of the igloos are provided with ventilating flues, these are in the minority.

The living rooms of some of the igloos are curtained off to separate the sleeping quarters from other parts of the household, but the majority have no such arrangement, all the household duties being conducted in the single room. The furniture equipment usually consists of a small stove, a few dishes, and improvised beds. The board floor, which is usually fairly clean, serves the purpose of chairs and tables. A few of the families own sewing machines and occasionally a phonograph. The majority of the homes are moderately clean and tidy, but at Barrow, with few exceptions, they are dirty and disorderly, and the odor from the skins and seal and whale meat renders the interior of these homes unbearable to one unaccustomed to these conditions.

Food.

The principal food supply of the natives of the northern section of the coast is the whale, seal, and walrus; fish are scarce. The meats are well preserved in underground ice cellars in which the temperature is constantly below freezing. These are excavated in the frozen ground, and each family is allotted a portion of the space.

The natives farther south on the coast in the vicinity of Kotzebue Sound, on the other hand, live chiefly on dried and smoked salmon, which is plentiful. Berries of all varieties are usually abundant in this section and are eaten with seal oil. The fish and other provisions are stored in caches on elevated platforms and covered with skins.

Game is plentiful. Ptarmigan, ducks, geese, and caribou are found all along the coast. Reindeer meat is eaten to some extent, and seal oil is consumed in large quantities and considered a delicacy. From the sale of furs, coffee, tea, sugar, flour, canned goods, and other staples are purchased from local traders. A sort of bread is baked from the flour; the dough is sometimes fried in seal oil on the order of our doughnuts. The diet of these people is almost exclusively meats and oil; vegetables are eaten but rarely and in the northern section not at all.

Water Supply.

The water supply of these settlements is melted ice or snow. The water is of good quality. During the summer months shallow wells supply water to the people of Kotzebue, Kivalina, and Point Hope, while at some of the other settlements the water is taken from streams where convenient.

Occupations.

Hunting, fishing, trapping, and boat building are the principal occupations of the men, while the women, in addition to their household duties, make the clothing and footwear for the family. Fur outer garments and footwear are worn throughout the year. A number of the natives are engaged in raising reindeer. This industry is not only a profitable business but a healthy occupation. The outdoor life which is required of the herders is directly responsible for their healthy appearance.

Climate.

The climate of the Arctic coast is comparatively dry and naturally conducive to health. The summers of continual daylight are from two to three months' duration, according to locality. The winters are long and cold, with moderate snowfall, and the ground is frozen; the days are very short and for three months there is constant darkness.

The climate is therefore an important factor in relation to the existing health conditions. While the cold exerts its protective influences and prevents the occurrence of infections usually arising from insanitary premises, at the same time it is the principal predisposing cause in the dissemination of tuberculosis among the natives, because it confines them to their insanitary homes the greater part of each year.

Disposal of Refuse.

The premises in the villages with two exceptions were fairly clean and sanitary. During the summer months garbage and refuse are thrown into the sea, while in winter they accumulate in the frozen state near the igloos. This is removed in the spring, when the

annual village "clean-up" occurs, under the supervision of the teacher. The Government teacher is the sanitary officer of the community, and the degree of sanitary progress in the settlement is in direct proportion to his efforts, influence, and activity in that respect.

Kivalina was the only settlement in which privies were in evidence, and these were poorly constructed. Urine is preserved in vessels and used for tanning skins. The old custom of using it as a substitute for soap on account of its ammonia is disappearing. The dead are buried, although formerly the bodies were wrapped in skins and laid to rest upon elevated platforms or placed in crevices in rock and covered with stones.

Diseases.

Tuberculosis is the most prevalent and therefore most important disease to be considered. It exists in all forms and stages. Approximately the population of the villages which were visited is 1,300 and the number of natives detected suffering with active tuberculous infection was 56. Of these, 30 cases were of the pulmonary type. Presumably this number does not represent the actual number of infections. For reasons previously stated the examinations were limited to those applying for medical relief. From reports of Asst. Surg. A. J. Watkins, Dr. Baurbour, of Kotzebue, the teachers of the bureau of education, and my own observations, I would estimate that the percentage of tuberculosis among the natives of the Arctic coast is equal to that in other sections of Alaska, 6 to 9 per cent. The largest number of cases was at Barrow.

While tuberculosis is the prevailing disease, serious eye affections are rather uncommon. Not one case of trachoma was noted. The absence of trachoma in this section is contrary to the conditions among the natives along the southern coast of Alaska, where the disease is common and responsible for considerable blindness and impaired vision. I believe these facts substantiate my theory, mentioned in a previous report, that trachoma was introduced into the Territory by the Russians from Siberia. These people settled exclusively along the southern coast of Alaska, and this fact also explains the absence of the disease among the Eskimos on the Arctic coast.

Syphilis is also an imported disease, a legacy of the old whaling-ship crews. Manifestations of this malady were seen in 7 cases, 5 of which were at Barrow.

Other diseases treated or reported were those due to exposure; rheumatism, bronchitis, and pneumonia. Gastric disturbances were frequently noted. These are due to the almost exclusive diet of meat and oil and improperly prepared food. A large number of the

children have adenoids and are mouth breathers. Epidemics of grippe, measles, chicken pox, and infantile paralysis were reported by the teachers in the different villages during the year.

Causes of Disease.

The home life of these natives is directly responsible for the majority of their ailments. Considering the long severe winters of continual darkness, during which period these people live indoors in small, overcrowded, overheated, and unventilated quarters, under conditions most favorable for the contraction of communicable diseases, it is remarkable that so many escape infection.

The Eskimos, like all aborigines, are very sociable, and therefore indulge in visiting and dancing to a great extent. The all-night dances, which are of weekly occurrence during the winter in every village, at which event 50 to 60 people crowd into an igloo having a floor space of about 16 feet square, under the most insanitary conditions, where singing, dancing, smoking, coughing, and expectorating prevail to a certain extent during the performance, are also important factors in the dissemination of tuberculosis and other diseases.

Other sources of infection are the common drinking cups and towels, the unclean nursing bottles, the practice of the mother chewing food for her infant, several persons eating with their fingers out of the same bowl, and the common habit among children of exchanging gum and candy and placing pencils in their mouths. All these conditions and customs need to be corrected or abolished before any permanent improvement can be reasonably expected.

Births and Deaths.

The law enacted by the legislature providing for the collection and registration of vital statistics has only recently gone into effect, and the only available statistics, although not absolutely accurate, in regard to natives are those compiled by teachers in their respective villages. For the year 1912 the teachers reported 48 births and 35 deaths among the Eskimos in the villages which were visited. The majority of these deaths were attributed to tuberculosis.

Recommendations.

The solution of the problems herein described may be summarized to be the establishment of well-equipped hospitals, the employment of a sufficient number of physicians and nurses, the isolation and treatment of the infected, the enforcement of sanitary measures in the native villages, and the education of the people in matters pertaining to hygiene and sanitation.

The territorial law providing for the notification and restriction of communicable diseases states that "all cases of pulmonary tuber-

culosis and trachoma, where the usual precautions to prevent the spread of the disease to others are willfully neglected and where other persons are liable to become infected on account of this negligence, shall also be considered as capable of conveying contagious or infectious disease." Under the provisions of this act there is authority for the removal to the proposed hospitals of all natives suffering with the diseases mentioned.

It is most essential to improve the living quarters, and I believe that the building of expensive frame houses is a mistake and that it would be advisable to improve the sod igloos, which can be built from the material at hand. The natives can be advised in what manner their present igloos may be improved to be more sanitary, and where this is not feasible, to build new structures according to approved plans under competent supervision.

Outdoor sports should be encouraged, while the dances heretofore described ought either to be abolished or conducted under more hygienic surroundings.

When one compares the Alaska Eskimo with his cousin of Siberia, the difference in favor of the former is readily apparent, but there still is a vast field for public health work on the Arctic coast as well as in other sections of Alaska.

It is desired to make acknowledgment to the officers of the Revenue-Cutter Service for their many courtesies extended to me, and to Asst. Surg. A. J. Watkins for his assistance in the examination of cases in the villages.

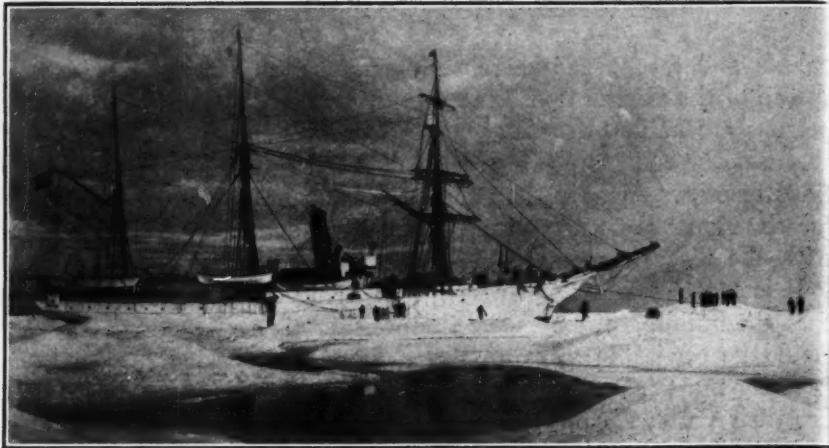


PLATE 1. The "Bear" in ice pack, Arctic Ocean, August 11, 1913.



PLATE 2. Eskimo costume. Reindeer parka.



PLATE 3. Point Hope belles.



PLATE 4. Native home, Icy Cape, Alaska.



PLATE 5. Summer home on Arctic Coast.



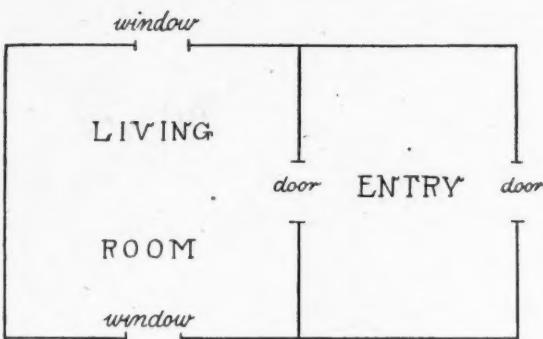
PLATE 6. Eskimo igloo, Point Hope, Alaska.



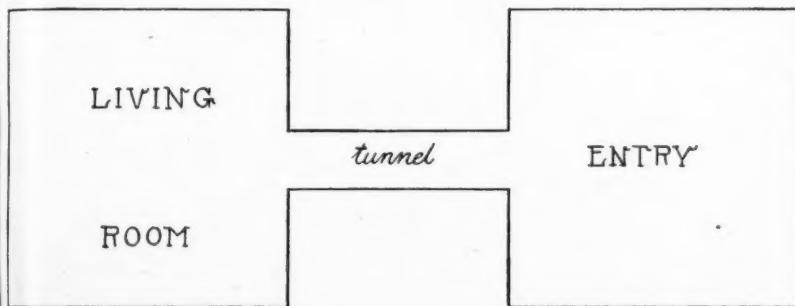
PLATE 7. Showing construction of igloo.



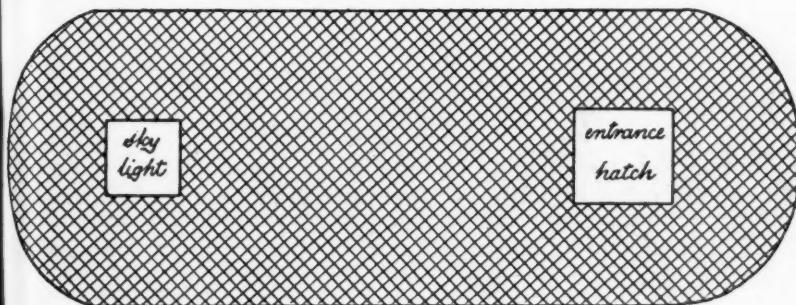
PLATE 8. Eskimo skin boat—kayak.



FLOOR PLAN OF SOD IGLOO, NO.1.



FLOOR PLAN OF SOD IGLOO, NO.2.



FLOOR PLAN OF SOD IGLOO, NO.3.

PLATE 9.